

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/30908

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : H04N 7/173

US CL : 725/118

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 725/118, 119, 120, 126, 127, 131, 139, 151, 78, 83

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,729,281 A (UTSUMI et al) 17 March 1998 (17.03.1998), column 5, line 60 - column 8, line 46 and Figs. 1-3.	1-33
Y	US 5,740,075 A (BIGHAM et al) 14 April 1998 (14.04.1998), column 27, lines 5-61, column 35, lines -54, column 40, line 12 - column 43, line 65 and Figs. 4-6.	1-33
Y	US 5,699,105 A (CHEN et al), 16 December 1997 (16.12.1997), column 5, line 9 - column 6, line 9.	2 and 3
Y	US 5,721,829 A (DUNN et al) 24 February 1998 (24.02.1998), column 2, lines 40-50, column 3, lines 13-63 and Fig. 1, el. 40.	6
Y	US 6,317,885 B1 (FRIES) 13 November 2001 (13.11.2001), column 3, line 66 - column 4, line 28 and Fig. 1, el. 46.	7
Y	US 2002/0019984 A1 (RAKIB) 14 February 2002 (14.02.2002), paragraphs 96-97, Fig. 6.	5
Y	US 2002/0073431 A1 (NIKOLICH) 13 June 2002 (13.06.2002), paragraphs 17 and 27-28, Figs. 1A-1B.	8, 9 and 19
Y,P	US 6,519,773 B1 (AHMED et al) 11 February 2003 (11.02.2003), column 7, line 45 - column 8, line 19 and Fig. 3B.	11
Y	US 5,828,403 A (DERODEFF et al) 27 October 1998 (27.10.1998), col. 7, lines 17-28, Figs. 1, 6 and 7.	12



Further documents are listed in the continuation of Box C.



See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

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later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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document member of the same patent family

Date of the actual completion of the international search

15 November 2004 (15.11.2004)

Date of mailing of the international search report

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Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Christopher Grant

Telephone No. (703) 305-3900

## INTERNATIONAL SEARCH REPORT

## C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	FELLOWS et al, DOCSIS Cable Modem Technology, IEEE Communications Magazine, March 2001, Vol. 39. No. 3, pages 202-209.	16
Y	US 6,188,871 B1 (KITAMURA et al) 13 February 2001 (13.02.2001), column 8, lines 4-63, Fig. 3 and Fig. 7, els. 1-4.	17-18
Y	US 5,631,693 A (WUNDERLICH et al) 20 May 1997 (20.05.1997), column 5, lines 15-61 and Fig. 1.	22
Y,P	US 2003/0018745 A1 (MCGOWAN et al ) 23 January 2003 (23.01.2003), paragraph 30.	23
Y	US 6,009,465 A (DECKER et al) 28 December 1999 (28.12.1999), column 4, lines 59-63, column 7, lines 16-31 and Figs. 2-3.	28-31
Y	US 3,639,840 A (SHEKEL et al) 01 February 1972 (01.02.1972), column 5, lines 18-43 and Fig. 5, el. 84.	30
Y	US 5,220,420 A (HOARTY et al) 15 June 1993 (15.06.1993), column 19, lines 49-68.	32
A	US 4,135,157 A (DEN TOONDER) 16 January 1979 (16.01.1979), whole document.	1-33
A	US 6,305,021 B1 (KIM) 16 October 2001 (16.10.2001), abstract, column 2, line 35 - column 6, line 29.	1-33